

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 23 JAN 2004

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Applicant's or agent's file reference w4870-004	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/SE2003/00148	International filing date (day/month/year) 29-01-2003	Priority date (day/month/year) 28-02-2002
International Patent Classification (IPC) or national classification and IPC ₇ H04L 12/14, H04L 29/06, G06F 1/00		
Applicant TELEFONAKTIEBOLAGET LM ERICSSON (PUBL) ET AL		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 19-09-2003	Date of completion of this report 08-01-2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer Behroz Moradi /itw Telephone No. 08-782 25 00

Form PCT/IPEA/409 (cover sheet) (January 1998)

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/SE2003/00148

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages 1-5, 7-16, as originally filed
 pages 6, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages 17-18, 20, as originally filed
 pages _____, as amended (together with any statement) under article 19
 pages 19, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the drawings:
 pages 1-6, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheet/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2 (c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.
PCT/SE2003/00148

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-20</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-20</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-20</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Documents cited in the International Search Report:

D1: US 6307924 B1
D2: US 6195364 B1
D3: WO 0199446 A1
D4: WO 9726739 A1
D5: US 2002/072333 A1 (PUBLISHED 13 JUNE 2002)
D6: JP 2002261987 A (PUBLISHED 13 SEPTEMBER 2002)

The cited documents represent the general state of the art. The invention defined in claims 1-20 is not disclosed by any of these documents.

The cited prior art does not give any indication that would lead a person skilled in the art to claimed a method and distributed rating system for determining rating data for services and subscribers in a communication network. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-20 is novel and is considered to involve an inventive step. The invention is industrially applicable.

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intelligent network IN has a signalling network, which performs message switching between network elements. In this embodiment of the invention, a specific type of signalling protocol, signalling system 7 (SS7), is used as a carrier for the exchange of information messages and carries many types of information elements, which are useful for intelligent network services. However, SS7 is only an example and the signalling protocol can be based on another protocol such as the Internet Protocol (IP), Camel Application Part (CAP) for GSM/UMTS, IN Application Part (INAP) for fixed networks - where CAP and INAP are transported on SS7/C7/SIGTRAN. Additionally, the intelligent network includes a service switching point (SSP 8) having a gsm service switching function (gsmSSF), in this embodiment, located in the (G)MSC 4, 5. The SSP 8 detects events indicating a call requiring IN and after this triggering, it suspends call processing and starts a series of transactions with a service control point (SCP 9) including a gsm service control function (gsmSCF) in this embodiment. In another embodiment of the invention used for GPRS the service switching point (SSP 8) includes a gprs service switching function (gprsSSF) located in the serving or gateway GPRS support node (SGSN/GGSN). The SCP 9 is a real-time database and service processing system that, based on a query from the SSP 8, performs subscriber- or application-specific service logic, controlling the call set-up and call flow. A home location register (HLR) 10 stores the identity and user data of all the subscribers belonging to the PLMN. Further, the HLR 10 provides the (G)MSC 4, 5 with the necessary subscriber data when a call is coming from a public switched network (PSTN) 6, an ISDN network, the Internet etc. A visitors location register (VLR) 11 contains relevant data of all mobiles currently located or roaming within a serving (G)MSC 4, 5. The VLR 11 has to support the (G)MSC 4, 5 during call establishment

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12. A computer program on a carrier and comprising computer executable instructions for causing a computer to perform the method according to claims 1-10.

5 13. A computer program according to claim 12, wherein said carrier is a record medium, computer memory, read-only memory or an electrical carrier signal.

10 14. A distributed rating system for determining rating data for services in a communications network, characterised by central rating means (14,17,20) including a computer apparatus adapted to access service data associated with a service or subscriber,

15 send a rating request, including said accessed data, to a distributed rating means (16,19,21) for distributed rating based on distributed rating data (19) related to said service or subscriber,

20 receive resulting rating data from said distributed rating means (16,19,21), and

 determine a rating value for said subscriber based on said received rating data.

25 15. A distributed rating system as in claim 14, wherein said system is a mobile communications system.

 16. A distributed rating system as in claim 14, wherein said system is an IN/CAMEL system.

30 17. A distributed rating system as in any of the claims 14-16, wherein said service is a prepaid service.